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Notice of Allowability	Application No.	Applicant(s)	
	10/765,688	RAUSCHER ET AL.	
	Examiner	Art Unit	
	Rip A. Lee	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-31.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

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| Claim 1, line 10 | replace "containing" with "which contains" |
| Claim 3, line 1 | delete "powder" |
| Claim 3, line 2 | replace "wherein the" with "comprising" |
| Claim 3, line 2 | insert "that" between the words "groups" and "contain" |
| Claim 4, line 2 | replace "alumoxane" with "alkylalumoxane" |
| Claim 4, line 2 | replace "catalyst" with "co-catalyst component" |
| Claim 7, line 2 | insert "support" between "polyorganosilsesquioxane" and "particles" |
| Claim 14, line 2 | replace "diphenyl methylene" with "diphenylmethylene" |
| Claim 15, line 1 | replace "In a" with "A" |
| Claim 15, line 7 | insert "cocatalyst component" after the word "alumoxane" |
| Claim 15, line 7 | replace "in" with the word "with" |
| Claim 15, line 11 | replace "containing" with "which contains" |

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Claim 18, line 1	replace "said" with "the"
Claim 18, line 1	delete "powder"
Claim 18, line 2	replace "alumoxane" with "alkyl alumoxane"
Claim 18, line 2	replace "catalyst" with "co-catalyst component"
Claim 19, line 1	insert "supported metallocene" between "said" and "catalyst"
Claim 20, line 1	replace "In a" with "A"
Claim 20, line 14	replace "group" with "ring structure"
Claim 20, line 15	replace "groups" with "ring structure"
Claim 20, line 17	delete "metallocene solvent"
Claim 20, line 18	insert "cocatalyst" after "alumoxane"
Claim 20, line 20	insert "material" after "support"
Claim 20, line 21	insert "hydrocarbon" between the words "aromatic" and "solvent"
Claim 21, line 2	replace "wherein the" with "comprising"
Claim 21, line 2	insert "that" between the words "groups" and "contain"
Claim 22, line 2	replace "catalyst" with "cocatalyst"
Claim 23, line 1	replace "procedures" with "steps"
Claim 23, line 1	delete "recited in claim 20"

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| Claim 24, line 1 | replace "In a" with "A" |
| Claim 24, line 7 | insert "powder" after the word "polyorganosilsesquioxane" |
| Claim 24, line 8 | replace "alkylalumoxane" with "alkyl alumoxane cocatalyst" |
| Claim 24, line 8 | delete "and a trialkyl aluminum" |
| Claim 24, line 15 | replace "group" with "ring structure" |
| Claim 24, line 16 | replace "groups" with "ring structure" |
| Claim 24, line 18 | delete "metallocene solvent" |
| Claim 24, line 20 | replace "alumoxane" with "alkyl alumoxane cocatalyst" |
| Claim 24, line 21 | insert "material" after the word "support" |
| Claim 25, line 2 | insert "cocatalyst" between the words "alkylalumoxane" and "comprises" |
| Claim 26, line 1 | replace "procedures" with "steps" |
| Claim 26, line 1 | delete "recited in claim 20" |
| Claim 27, line 5 | insert "particles" after the word "support" |
| Claim 27, line 5 | insert "co-catalyst" after the word "alkylalumoxane" |
| Claim 27, line 12 | replace "group" with "ring structure" |
| Claim 27, line 13 | replace "groups" with "ring structure" |
| Claim 29, line 2 | delete "catalyst component" |
| Claim 30, line 2 | delete "catalyst component" |
| Claim 31, line 2 | delete "catalyst component" |

Allowable Subject Matter

The following is an examiner's statement of reasons for allowance: Claims 1-31 are allowed over the closest reference, Severn *et al.* (*Organometallics*, 2002).

The present claims are drawn to a supported metallocene catalyst, a process for the preparation of a supported metallocene catalyst, and a process for the polymerization of ethylenically unsaturated monomer in the presence of a supported metallocene catalyst. Salient features of said supported metallocene catalyst include: a stereospecific metallocene catalyst component supported on a polyorganosilsesquioxane support comprising spheroidal polyorganosilsesquioxane support particles having an average particle size within the range of 0.3 to 20 microns and having an alkylalumoxane co-catalyst component supported on said polyorganosilsesquioxane support.

Severn *et al.* discloses the compound $(\text{Me}_3\text{Si})_2\text{Cp}[(c\text{-C}_5\text{H}_9)_7\text{Si}_8\text{O}_{12}\text{CH}_2\text{-9-Flu}]\text{ZrCl}_2$ which is a bilateral metallocene containing two dissimilar carbocyclic ligands tethered to a silsesquioxane. The compound is combined with MAO to form a catalyst for olefin polymerization. The reference does not teach use of polyorganosilsesquioxane support particles having an average particle size within the range of 0.3 to 20 microns.

The accompanying PTO-892 cites references that are relevant to the instant invention. These documents teach metal complexes of silsesquioxanes.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rip A. Lee whose telephone number is (571)272-1104. The examiner can be reached on Monday through Friday from 9:00 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571)272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <<http://pair-direct.uspto.gov>>. Should you have questions on the access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll free).

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June 7, 2006


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